

СКОЛОВ, А.А.; КОКНУЗХАНОВ, М.К.

Meadow-brown desert soils formed of two-layer depositions in the
Taysan Depression. Pochvovedenie no.4:49-56 Ap '64.

(MIRA 17:10)

1. Institut pochvovedeniya AN Kazakhskoy SSR, g. Alma-Ata.

SKLYAROV, V.M., otv. red.; GRIBANOV, N.N., red.; MUROMTSEV, A.M., red.; POGOSYAN, Kh.P., red.; PROTOPOPOV, V.S., red.; RUDNEV, G.V., red.; SOKOLOV, A.A., red.; SOLOV'YEV, V.A., red.; USMANOV, R.F., red.; ZHDANOVA, L.P., red.; RUSAKOVA, G.Ya., red.; CHEPELKINA, L.A., red.; KOLESOVA, Z.M., tekhn.red.

[Man and the elements; hydrometeorologic desk calendar for 1964] Chelovek i stikhiia; nastol'nyi gidrometeorologicheskii kalendar' 1964. Leningrad, Gidrometeorologicheskoe izd-vo, 1963. 154 p. (MIRA 17:2)

SOKOLOV, A.A.

Maximum runoff of snow water of small basins and the nature of its
reduction. Trudy GGI no.107:63-111 '63. (MIRA 16:7)
(Runoff)

SOKOLOV, Aleksey Aleksandrovich; POPOV, I.V., kand. geogr. nauk,
red.; SHATILINA, M.K., red.

[Hydrography of the U.S.S.R.; inland waters] Gidrografiia
SSSR; vody sushi. Leningrad, Gidrometeoizdat, 1964. 534 p.
(MIRA 17:12)

GENUSOV, A.Z.; GORBUNOV, B.V.; KURMANGALIEV, A.B.; SOKOLOV, A.A.

Interrepublic expedition of the soil scientists of Central Asia
and Kazakhstan for coordinating the problems of soil classification
and nomenclature. Pochvovedenie no.8:123-124 Ag '65. (MIRA 18:9)

MOSHKOV, V.N.: SOKOLOV, A.A.

Exercise therapy; present state and immediate tasks. Vop.kur.
fizioter.i lech.fiz.kul't. no.1:25-30 Ja-Mr '55. (MLRA 8:8)
(EXERCISE THERAPY,
in Russia)

KRYACHKO, I.A., dots., otv. red.; PRIOROV, N.N., prof., red.; MOSHKOV, V.N., prof., red.; LETUNOV, S.P., prof., red.; SOKOLOV, A.A., vrach, zasl. master sporta, red.; LEVANDOVSKIY, L.I., red.; KUKOLEVSKIY, G.M., red.; GOTOVTSEV, P.I., red.; MEL'NIKOV, Ya.A., red.; FILIPPOVA, L.I., kand. med. nauk, red.; BEL'CHIKOVA, Yu.S., tekhn. red.

[Sports medicine; transactions of the Twelfth International Congress on Sports Medicine] Sportivnaia meditsina; trudy Mezhdunarodnogo kongressa sportivnoi meditsiny, 12th, Moscow, 1958. Moskva, Gos. izd-vo med. lit-ry, 1959. 646 p. (MIRA 14:10)

1. Mezhdunarodnyy kongress sportivnoy meditsiny, 12th, Moscow. 1958.
 2. Zamestitel' predsedatelya Organizatsionnogo komiteta i chlen ispolnitel'nogo komiteta Mezhdunarodnoy federatsii sportivnoy meditsiny (for Kryachko).
 3. Deystvitel'nyy chlen AMN SSSR i TSentral'nyy institut travmatologii i ortopedii (for Priorov).
 4. Chlen-korrespondent AMN SSSR i TSentral'nyy institut usovershenstvovaniya vrachey i TSentral'nyy institut kurortologii (for Moshkov).
 5. TSentral'nyy nauchno-issledovatel'skiy institut fizicheskoy kul'tury (for Letunov).
 6. Sektsiya futbola SSSR Vsesoyuznogo trenerskogo soveta (for Skolov).
 7. Institut fizicheskoy kul'tury im. I.V.Stalina (for Kukolovskiy).
- Vrachebno-fizkul'turnyy dispanser no.2, Moskva (for Filippova).
(SPORTS MEDICINE--CONGRESSES)

SOKOLOV, A.A., zasluzhennyy vrach RSFSR

Interdistric hospitals bring specialized care nearer to the rural
population. Zdrav.Ros.Feder. 3 no.7:9-13 J1 '59. (MIRA 13:1)

1. Glavnyy vrach Kalininskoy oblastnoy bol'nitsy.
(HOSPITALS, RURAL)

SOKOLOV, A.A., vrach, zasluzhennyy master sporta

Boys and soccer. Zdorov'ye 7 no.8:24 Ag '61.
(PHYSICAL EDUCATION FOR CHILDREN)

(MIRA 14:9)

LETUNOV, S.P., prof., otv. red.; GRAYEVSKAYA, N.D., red.; DEMBO,
A.G., red.; SOKOLOV, A.A., red.; BUNKIN, N.A., spets. red.
BERZIN, A.A., red.; DCTSENKO, A.A., tekhn.red.

[Medical observations on sportsmen in the process of train-
ing] Vrachebnye nabludeniia za sportsmenami v protsesse
trenirovki. Red. koll. S.P.Letunov i dr. Moskva, Izd-vo
"Fizkul'tura i sport," 1963. 303 p. (MIRA 16:10)
(SPORTS MEDICINE)

IVANOV, Sergey Mikhaylovich, prof.; Prinimali uchastiye: LEPORSKIY,
A.A.[deceased]; SOKOLOV, A.A.; MANIKOV, M.Ye., red.;
ROMANOVA, Z.A., tekhn. red.

[Medical control and exercise therapy] Vrachebnyi kontrol'
i lechebnaia fizkul'tura. Izd.2., ispr. i dop. Moskva,
Meditsina, 1964. 429 p. (MIRA 17:2)

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SOROLOV, A.

Severn, i morskoi put'. [The Northern Sea Route] (Sovetskii Sever, 1930, no. 1, p. 15-36). DLC: AC 331.S55

SO: Soviet Transportation and Communications, A Bibliography. Library of Congress, Reference Department, Washington, 1952, Unclassified.

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Morskii puti na Sever. [Sea Routes to the North]. (Sovetskii Sever, Moskva, 1930, no. 3).

DLC: HC331.S55

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The Delta-Function and its Application to the Solution of Certain Mathematical Problems of Geophysics. (Del'ta-Funktsiya i eye primeneniye k resheniyu nekotorykh matematicheskikh zadach geofiziki). Works of Mining-Geological Institute, No 10. Sverdlovsk. Published by Ural Affiliate of Acad Sci USSR, 1946. 44 pp.
(Meteorologiya i Gidrologiya, No 6 Nov/Dec 1947)

SO: U-3218, 3 Apr 1953

1. BOKOIC, A. A.

2. BOKOIC (COO)

"Solution by means of the Delta Function of Some problems Dealt With in the Theory of Electric Core Sampling." Inzhenernyy sbornik (Institute of Mechanics of the AN USSR), Volume IV, Issue 2, 1948 (133-146).

3. Meteorologiya i Gidrologiya, No. 3, 1947.

Report U-2551. 30 Oct 52.

SOKOLOV, A.A.

Climatology

" Influence of man upon nature." A.I. Voyeykov. Reviewed by A.A. Sokolov.
Met. i gidrol. No. 5, 1941.

Monthly List of Russian Accessions, Library of Congress, October, 1952. UNCLASSIFIED.

Sokolov A.A.

2.

✓ 5.2-241

551.579

Sokolov, A. A. O geograficheskom i geofizicheskom napravleniiakh v gidrologii. [Geographical and geophysical tendencies in hydrology.] *Voprosy Geografii*, No. 26, *Gidrologiia*, p. 34-45, 1951. refa. DLC—The problem: whether hydrology is a geographical, geophysical or engineering science. Author emphasizes the importance of the geographical approach, but finally agrees that a synthetic one would be desirable. *Subject Headings*: 1. Hydrology
2. Geographical methods.—A.A.

46/224

SOKOLOV, A.A.; MURANOV, A.P., redaktor; KONONOVA, L.B., tekhnicheskii
redaktor.

[Hydrography of the U.S.S.R.; inland waters] Gidrografiia SSSR,
vody sushi. Leningrad, Gidrometeorologicheskoe izd-vo, 1952. 470 p.
[Microfilm] (MLRA 7:11)
(Hydrography)

IVANOV, K.E., kand. tekhn.nauk.; ~~SOKOLOV, A.A.~~, otv. red.; YASNOGORODSKAYA,
M.M., red.; BRAYNINA, M.I., tekhn. red.; KONONOVA, L.B., tekhn. red.

[Hydrology of swamps] Gidrologiia bolot. Leningrad, Gidrometeor.
izd-vo, 1953. 295 p. (MIRA 11:11)

(Swamps)
(Water, Underground)

SOKOLOV, A.A., kandidat geograficheskikh nauk; PROTAS'YEV, M.S.,
kandidat geograficheskikh nauk; ALYUSHINSKAYA, N.M.,
kandidat geograficheskikh nauk

Main Turkmen Canal and problems in the field of runoff research.
Meteor. i gidrol. no. 1:21-24 Ja '53. (MLRA 8:9)

I. Gosudarstvennyy gidrologicheskiy institut, Leningrad. GGI
(Main Turkmen Canal--Runoff)

State Hydrological Institute, Leningrad

SOBKOLOV, A. A.

"Variation in the Times of Breaking-Up and Freezing of the River Neva in Connection With the Climate's Becoming Warmer," Meteorol. i. gidrologiya, No 10, 1953, p 40

From the table of the deviations from the mean times of breaking-up and freezing of the River Neva near Leningrad according to decades from 1711 to 1950 the author shows that the duration of the icy grip on the river has decreased since 1910. A similar variation in the ice regime is noted in the 120-year period of observations on Lake Kallavesa in Finland. In the remarks of the editor it is noted that the release of industrial water wastes influences the times of freezing and breaking-up of the Neva. The mean date of freezing of the Neva is 25 November; breaking up of the ice occurs 20 April. (RZhGeol, No 5, 1954)

SO: Sum. No. 568, 6 Jul 55

SOKOLOV, A. A.

"Concerning N. I. Dmitriyeva's Review of A. A. Sokolov's Book Gidrometfiziya SSSR
(Hydrophysics of the USSR)," Material. i Gidrometfiziya, No 3, 1974, pp 61-63

Reply of the author to the review of his book by N. I. Dmitriyeva in Meteorologiya
i Gidrometfiziya, No 3, 1974, pp 5-59. This book, Gidrometfiziya SSSR, was also reviewed (see
abstract 8345) by N. I. L'vovich in Izvestiya AN SSSR, seriya geogr. No 5, 1973, pp 95-98.
The book is 471 pages, and published by the Hydromet Press, Leningrad, 1972. (GZhGeol,
No 6, 1975) SC: Ser.No. 713, 9 Nov 75

SOKOLOV, A.A.

Effect of lake regulation on the minimum discharge of the river. Trudy
GGI no. 43:175-182 ' 54. (MIRA 12:1)

(Lakes) (Rivers)

SOKOLOV, A. A.

AID P - 1436

Subject : USSR/Meteorology and Hydrography

Card 1/1 Pub. 71-a - 10/23

Author : Sokolov, A. A. Kandidat of Geogr. Sciences

Title : Effect of lakes on the rate of river flow

Periodical : Met. i gidro., 1, 36-41, Ja - F 1955

Abstract : Diagrams are presented with curves related to latitudes 70° in the North of European Russia, with maximum precipitation and water discharge, and in the south 45° , with minimum precipitation and water discharge. The diagrams include evaporation curves from water surfaces and land surfaces. A table gives the relation of lake areas in percent for latitudes 50° - 70° N. 3 graphs, 2 tables, 3 Russian references.

Institution: Main Administration of the Hydrometeorological Service at the Council of Ministers of the USSR

Submitted : No date

SOKOLOV, A.A.

Rapid construction of automobile log roads. Mekh.trud.rab. 9 no.4:
36-38 Ap '55. (MLRA 8:7)
(Forest roads)

SOKOLOV, A.A.

USSR/ Meteorology - Changing climate

Card 1/1 Pub. 86 - 17/38

Authors : Sokolov, A. A., Cand. Geog. Sc.

Title : Shortening of the period of stoppage of ice flow in connection with the warming up of the climate

Periodical : Priroda 44/7, 96 - 98, Jul 1955

Abstract : In connection with the general observation that the climate has been getting warmer during the last 50 years, a study is made of the figures of length of time of stoppage of ice flow at various points—that of the Neva river covering the period from 1711 to date, and that of lake Kallavesi (in Finland) from 1843 to date. These tables of figures show a definite trend toward a shortening of the period of stopped ice flow. Four references: 2 USSR, 1 German, and 1 Finnish (1886-1954). Tables.

Institution : State ^{Hydrological} ~~Hydrology~~ Inst., Leningrad.

Submitted :

SOKOLOV, A.A.

Maximum flow of rivers having a lacustrine control, and methods of
computing it. Trudy GGI no.50:117-147 '55. (MLBA 9:8)
(Rivers) (Lakes) (Stream measurements)

SOKOLOV, A.A.

Possibilities of long-term forecast of the yearly flowoff of rivers
controlled by lakes. Trudy GGI no. 53:114-127 '56. (MLRA 10:8)
(Rivers) (Lakes)

3(4)

PHASE I BOOK EXPLOITATION 807/2001

Moscow: Universitet. Geograficheskii fakul'tet

Voprosy gidrologii (Problems in Hydrology) [Moscow] Izd-vo Moskovskogo univ., 1957. 231 p. 2,500 copies printed.

Reep. Eds.: I. V. Samoylov and L. D. Kurenyayev; Tech Ed.: M.S. Yermakov.

PURPOSE: This book is intended for hydrologists and geographers. COVERAGE: This collection of articles on the hydrology of the USSR is dedicated to Professor Ye. V. Bliznyak, Doctor of Technical Sciences. Among the topics discussed are: 1) the effect of air temperature on flow volume, 2) the calculation of snow runoff, 3) the speed of flood waters, 4) stream levels, 5) spring floods, 6) suspended sediments in running streams, 7) the

Card 1/6

effect of agricultural practices on hydrology, and others. The discussions are accompanied by maps, graphs and tables illustrating the present or long-term hydrology of the USSR. References accompany each article.

TABLE OF CONTENTS:

Problems in Hydrology	159
Basins and Its Role in the Creation of Spring Floods	175
Kocovilova, M. I. Attempt at a Hydrological Subdivision of the Northwestern Caspian Area	186
Khelesnyak, I. A. Runoff Water Distribution in the Annual Regimen of Rivers	195
Sokolov, A. A. The Relationship of the Water Balance of Lakes to the Dimensions of a Lake and Its Basin Under Various Geographical Conditions	205
Arhangelskiy, M. M. Some Prospects in the Application of Physical Methods in Hydrometry	211
Peter, Yu. A. The Problem of the Methodology of the Quantitative Evaluation of the Heat Regime of Running Waters	

Card 5/6

50-1-3/26

AUTHOR: Sokolov, A. A.

TITLE: Average Flow Losses Resulting from Creation of Reservoirs
under Various Geographic Conditions
(O normakh poter'zstoka, svyazannykh s sozdaniyem
vodokhranilishch v razlichnykh geograficheskikh usloviyakh).

PERIODICAL: Meteorologiya i Gidrologiya 1958, Nr 1, pp. 17-21 (USSR)

ABSTRACT: Hydrologic publications contain many investigations devoted to the calculation of the evaporation from the surface of the water. An especially great attention was in recent years devoted to this problem in connection with the planning and the construction of larger water storages. As a result of these investigations as well the theoretical aspect of this problem as the method of calculation of the evaporation from the surface of the water reservoir were essentially developed. This made it possible to work out practical recommendations for the calculation of the evaporation norms with an accuracy acceptable for practice. The evaporation from the surface of the water, however, is no runoff loss. The losses of the discharge forming due to the construction of water storages are not only determined by the quantity of evaporation from the surface of the water, but by the difference $x - z$ (precipitations -

Card 1/3

Average Flow Losses Resulting from Creation of Reservoirs
under Various Geographic Conditions

50-1-3/26

evaporation). More exactly, the discharge losses are determined by the difference between the runoff that existed in the place before the storage was constructed and the runoff that resulted after the construction of the storage in the same place. For practice a simple method for determining the quantity of these losses in various hydrological variants would be useful. The theoretical assumptions are that the losses caused by the construction of water storages are determined by the proportion of the individual components of the runoff and evaporation relations toward each other. As is already known they have a zonal nature, i.e. they change according to rules and in dependence on the geographical position. Detailed calculations on the formation of the runoff loss caused by the establishment of a water storage in the river bed are given:

$$\Delta h = p \left(\frac{x-z}{h} - 1 \right)$$

The quantity of the runoff loss, as is to be seen from the equation, is determined by two main parameters: 1) by the quantity p, i.e. by that part of the surface taken up by the water storage in the basin. At any conditions the value p is

Card 2/3

Average Flow Losses Resulting from Creation of Reservoirs
under Various Geographic Conditions

50-1-3/26

the higher the losses of runoff are, or at the given quantity F, the larger the surface of the water storage is. 2) By the quantity $\frac{x-z}{h}$ which is designated by K in the following.

The parameter K is of great importance, as it determines the quantity of runoff losses at the same quantity p. As far as the quantity K is determined by the proportions of the elements of the runoff and evaporation relations, the value K is the climatic characteristic, that means that it insignificantly modified within one and the same climatic district. Three characteristic cases are investigated for the determination of the rules governing the modifications of the parameter K - according to the geographical position. The results are illustrated by a diagram (figure 2).

There are 2 figures.

AVAILABLE:

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1. Hydrology-USSR 2. Hydrology-Geographic survey-USSR

Card 3/3

SOKOLOV, A.A.

Types of river basins based on the nature of the relationship
of runoff and evaporation to precipitation. Sbor. rab. po
gidrol. no.1:13-22 '59. (MIRA 15:2)

1. Gosudarstvennyy gidrologicheskiy institut.
(Runoff)

State Hydrological Institute, GGI, Leningrad

SOKOLOV, A.A.; ZASLAVSKIY, M.N.

(calculating the real area of drainage basins with steep slopes.
Sbor. rab. po gidrol. no.1:106-109 '59. (MIRA 15:2)

1. Gosudarstvennyy gidrologicheskiy institut.
(Runoff)

3 (7)

AUTHOR:

Sokolov, A. A.

SOV/50-59-9-12/16

TITLE:

Development of Hydrology in the Chinese People's Republic

PERIODICAL:

Meteorologiya i gidrologiya, 1959, Nr 9, pp 46 - 49 (USSR)

ABSTRACT:

The history of hydrological investigations in China from 200 B.C. up to date is first described in brief. The investigations in this field from 1955 to 1958 are then described in detail. The harnessing of the river Huang-ho was started in 1958. 9 reservoirs, 11 inundation basins have been finished, old dams reinforced, and new ones constructed (3985 km). The construction of the network of hydrotechnical installations in San-men-hsia was started in 1957.~ Some objects provided in the scheme for the Hai-ho Basin worked out in 1955-1957 are under construction at present. In the Yang-tze Basin, the network of hydrotechnical installations in San-hsia with a capacity of 20,000,000 kw will be under construction as from 1960. A scheme for the joint utilization of the water reserves in the basins of the Chu-chien, Sungari, Liao-ho, etc is being developed.~ On January 1, 1958, the area irrigated was 40,200,000 ha, and in September 1958: 64,000,000 ha. A Hydro-

Card 1/3

Development of Hydrology in the Chinese People's
Republic

SOV/50-59-9-12/16

logical Administration was established. Extensive work is being done by the planning and research institutes of water economy in Peking, Harbin, Mukden, Cheng-chou, Shang-hai, Pang-p'u, Kanton, Han-k'ou, and Urumchi. Uniform regulations for the execution of hydrometrical work were introduced in 1955. 11 evaporation basins with a surface of 10 and 20 m² have been built in recent years. One of them with 100 m² was completed in Ch'ung-ch'ing in 1957. A floating evaporator (GGI-300) was built on the Kuang-t'ing Basin. It ensures reliable observations in the open part of the water basin at waves up to 1.3 m. The project for the frame network of hydrological stations was worked out in 1956-1957. Except for Tibet, it will be realized in the next 2-3 years. A number of scientific research stations for experiments were established. Some experimental stations for investigating the processes in river beds are available: near Nanking, above Han-k'ou, on the river Yung-t'ing-ho below the Kuang-t'ing Basin, on the river Huang-ho below the railroad bridge of Peking-Han-k'ou. There are 38 discharge- and erosion stations in the Huang-ho Basin, e.g. in T'ien-sui, Sui-te, Hsi-feng, Li-shan.

Card 2/3

Development of Hydrology in the Chinese People's Republic

SOV/50-59-9-12/16

A project for more discharge stations has been finished, and these stations are already under construction. On January 1, 1958, there were 2,909 hydrological stations, including rain measuring points, in China. The Department of Hydrology of the Scientific Research Institute of Water Economy, together with the Geographical Institute of the Academy of Sciences of the Chinese People's Republic, develops a plan for the division of China into hydrological areas. The "Atlas of Downpours in the Territory of the Chinese People's Republic" was published in 1958. The papers by Professor Ling Ping-i and Professor Ch'en Chia-ch'i on empirical formulas for calculating the maximum downpour discharge are mentioned. A manual on the water reserves of the province of Ho-pei was published in 1958. The Hydrological Service started developing a method for long-term forecasts of low-water discharge in 1956. The development of methods of forecasting the ice conditions has also been started.

Card 3/3

SOKOLOV, A. A.

"Aspects of the Law of Geographic Zonality in Hydrology"

report to be submitted for the Intl. Geographical Union, 10th General Assembly
and 19th Intl. Geographical Congress, Stockholm, Sweden, 6-13 August 1960.

CHEBOTAREV, Aleksandr Ivanovich; SOKOLOV, A.A., otv.red.; YASNOGORODSKAYA,
M.M., red.; BRAYHINA, M.I., tekhn.red.

[General hydrology; continental waters] Obshchaia gidrologiia;
vody sush. Leningrad, Gidrometeor.izd-vo, 1960. 539 p.
(Hydrology) (MIRA 13:9)

SOKOLOV, A.A.

Zonal and azonal factors of runoff. Sbor. rab. po gidrol. no.2:
147-165 '61. (MIRA 15:2)

1. Gosudarstvennyy gidrologicheskiy institut.
(Runoff)

SOKOLOV, A.A.

"Development of land hydrology in Russia" by I.A.Fedoseev. Re-
viewed by A.A.Sokolov. Meteor.i gidrol. no.5:53-54 My :61.
(MIRA 14:4)

(Hydrology--Research) (Fedoseev, I.A.)

ZAYKOV, B.D.; ONUFRIYENKO, L.G.; SOKOLOV, A.A.; KHMALADZE, G.N.

"General hydrology; continental waters" by A.I.Chebotaev.

Reviewed by B.D.Zaikov and others. Meteor.i gidrol. no.7:50-52

(MIRA 14:6)

Jl '61.

(Hydrology)

(Chebotaev, A.I.)

SOKOLOV, A.A.

The law of geographical zonality in hydrology. Meteor. i gidrol.
no.8:20-25 Ag '61. (MIRA 14:7)

(Hydrology)

SOKOLOV, A.A.

Interrelationship between the morphological characteristics
of the basin and the watercourse. Meteor. i gidrol. no.2:16-
22 F '62. (MIRA 15:2)

(Runoff)

SOKOLOV, A.A.

Influence of a forest on the maximum runoff of a spring flood.
Trudy GGI no.99:79-140 '62. (MIRA 15:9)
(Forest influences) (Runoff)

SOKOLOV, A.A., doktor geograf. nauk

History of the differential equation of a water budget. Meteor.
i gidrol. no.7:25-26 J1 '64 (MIRA 17:8)

1. Gosudarstvennyy gidrologicheskiy institut.

SUKOLAV, A. A.

"The landscape districts and the localization of the natural foci of zoonosis infections with natural foci in the Transbaikalian part of the USSR. p. 202.

Desyatoye Soveshchaniye po parazitologicheskim problemam i prirodnoochagovym boleznyam. 22-29 Oktyabrya 1959 g. (Tenth Conference on Parasitological Problems and Diseases with "atural Foci 22-29 October 1959), Moscow-Leningrad, 1959, Academy of Medical Sciences USSR and Academy of Sciences USSR, No. 1 254pp.

Oblast Sanitary-Epidemiological Station/Kalinin

SOKOLOV, A.A.

Excess of the maximum discharges of summer and fall rain floods
over the discharge of spring floods. Trudy GOI no.127:188-
195 '65. (MIRA 18:9)

KRASIL'NIKOV, N.A.; BOLTANSKAYA, E.V.; SOKOLOV, A.A.; MELKONYAN, Sh.

Flagelliform outgrowths in Azotobacter. Dokl. AN SSSR 164 no.4:931-
933 C '65. (MIRA 18:10)

1. Moskovskiy gosudarstvennyy universitet. 2. Chlen-korrespondent
AN SSSR (for Krasil'nikov).

KAPRELYAN, R.I.; SOKOLOV, A.B.

Landing of a helicopter under conditions of autorotation of the
supporting propeller. Vest.Vozd.Fl. no.6:58-63 Je '61. (MIRA 14:8)

(Helicopters—Piloting)

USSR

ACCESSION NR: AP4000676

S/0286/63/000/017/0076/0076

AUTHOR: Sadagashvili, G. R.; Sokolov, A. B.

TITLE: Vacuum chamber. Class 42, No. 157141

SOURCE: Byul. izobret. i tovarn. znakov, no. 17, 1963, 76

TOPIC TAGS: vacuum chamber, gastightness, airtightness, hermetic sealing, vacuum chamber sealing, pressure chamber, pressure chamber sealing

ABSTRACT: The vacuum chamber, for testing the airtightness and permeability to gas of such things as structural joints consists of the vacuum chamber proper, a suction device, and device on which the object to be tested is mounted. In order to perform the airtightness test, the mounting device is so made that it may be fastened to a removable fitting on the front of the chamber. This fitting has various-size screens which are sealed either with a layer of mastic or with a film. Orig. art. has: 1 figure.

Card 1/3

ACCESSION NR: AP4000676

ASSOCIATION: none

SUBMITTED: 14Jul62

SUB CODE: MD, IE

DATE ACQ: 05Dec63

NO REF SOV: 000

ENCL: 01

OTHER: 000

Card 2/3

ACCESSION NR: AP4000676

ENCLOSURE: 01

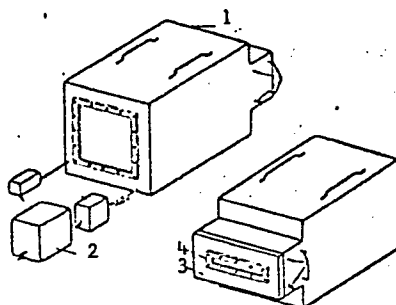


Fig. 1. Vacuum chamber

1 - Vacuum chamber; 2 - suction device; 3 - dismountable fitting; 4 - screens.

Card 3/3

AUTHORS: Smirnov-Averin, A. P., Krot, N. N., Sokolov, A. B. 75-13-3-3/27

TITLE: ~~The Removal of Ethylenediaminetetraacetic Acid From Solutions by Oxidation~~ (Udalenie etilendiamintetrauksusnoy kisloty iz rastvorov okisleniyem)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 3, pp 280-283 (USSR)

ABSTRACT: Ethylenediaminetetraacetic acid (complexon II) and its disodium salt (complexon III) are very frequently used in analytical chemistry and in chemical industry (Refs 1-17). In the performance of analyses it is sometimes necessary to remove the complexons from the solution to be analyzed. For this purpose the oxidative destruction is most suitable. The investigation of the oxidation of the complexons is of interest, as oxidizing agents may be present in the solutions to be analyzed. Only the destruction of ethylenediaminetetraacetic acid by chlorates in a hydrochloric solution on heating (Ref 18) and the reaction of the same compound with hydrogen peroxide in the cold (Ref 19) were described in publications. In the present work the authors investigated the oxidation of ethylenediaminetetraacetic acid by nitric acid, nitrous acid and ammonium persulfate. Complexon II in the cold is only very

Card 1/3

The Removal of Ethylenediaminetetraacetic Acid From Solutions 75-13-3-3/27
by Oxidation

slowly oxidized by nitric acid. On heating, the oxidation takes place considerably faster, but a complete destruction is not attained by long boiling with 4n-HNO₃ either. In neutral solutions complexon II is not attacked in the cold by potassium nitrate even at very high concentrations of the latter; in the heat the oxidation only takes place very slowly. Nitric acid is therefore not suitable for the quantitative destruction of complexon II. The nitrate ion does not disturb the complexometric titrations in boiling solutions either, as these titrations are carried out rapidly and in weak acidity. Nitrous acid oxidizes complexon II more strongly than nitric acid. By adding sodium nitrite in small portions to a boiling nitric acid solution of ethylenediaminetetraacetic acid its complete oxidation can be attained. When all NaNO₂ is added at once, no quantitative destruction occurs, as the nitrite is rapidly decomposed under the formation of nitric oxides. Ammonium persulfate very rapidly oxidizes complexon II in a weakly acid solution at boiling temperature. The authors worked out a method for the rapid and quantitative destruction of complexon II by oxidation with ammonium persulfate in a nitric acid solution. As the sulfate ion produced in this reaction sometimes

Card 2/3

The Removal of Ethylenediaminetetraacetic Acid From Solutions by Oxidation 75-13-3-3/27

disturbs the further course of analysis, a second method was also worked out which is based on the oxidation with sodium nitrite in a nitric acid solution. All performed investigations as well as the two working prescriptions are described in detail. There are 4 tables and 23 references, 5 of which are Soviet.

SUBMITTED: February 12, 1957
1. Ethyleneamines--Oxidation

Card 3/3

SOKOLOV, A.B.; MOSEYEV, L.I.; KARABASH, A.G.

Coextraction of traces of elements during the extraction of bromides
with oxygen-containing organic solvents. Zhur.neorg.khim. 6
no.4:994-998 Ap '61. (MIRA 14:4)

(Extraction (Chemistry)) (Bromides) (Trace elements)

MODESTOV, V.S., prof.; SOKOLOV, A.B., mladshiy nauchnyy sotrudnik

Distribution and excretion of C^{14} -tagged nicotinic acid in
rats. Trudy ISIN 71:194-200 '64. (MIRA 18:6)

1. Kafedra meditsinskoy radiologii (zav. prof. V.K. Modestov)
TSentral'noye instituta usovershenstvovaniya vrachey.

MITASHOVA, N.I.; SOKOLOV, A.B.

Permeability of the hematoencephalic barrier and the distribution
of K^{42} in the organs of rats in hypervitaminosis A. Trudy TSIU
71:212-220 '64. (MIRA 18:6)

1. Kafedra meditsinskoy radiologii (zav. prof. V.K. Modestov)
TSentral'nogo instituta usovershenstvovaniya vrachey.

SOKOLOV, A. D.

PA - 1514

CARD 1 / 2

SUBJECT
AUTHOR
TITLE

USSR / PHYSICS

MATVEEV, V. V., SOKOLOV, A. D., ŠLJAPNIKOV, P. S.

The Energy Distribution of Gamma Quanta Originating from a Punctiform Gamma Radiation Source in an Infinite Sandy Medium.

PERIODICAL

Atomnaja Energija, 1, fasc. 4, 57-62 (1956)
Issued: 19.10.1956

The present article studies the energy spectra of γ -radiation at various distances from punctiform sources (Cr^{51} , Zn^{65} , Ra and MsTh). Description of tests:
Tests were carried out in sandy soil (density 1,6 g/cm³). The recording device for γ -radiation was located in a depth of 110 m. At various distances from it tubes filled with the gamma radiation source were fitted in a horizontal line with the recording device. A special scintillation gamma spectrometer was built for these tests. Gamma radiation was recorded by means of a radiating head consisting of a CsJ(Tl)-crystal, a photo-multiplier "FEU-12" and an output cathode repeater. The impulses emitted from the cathode repeater were transmitted to a linear amplifier and from there to an analyzing counting system with 3 channels (channel of general counting, channel of differential counting, and channel of integral counting). Gamma radiation sources with different intensities were needed.
Sources with Cr^{51} and Zn^{65} with a γ -intensity of from 0,1 to 10 millicurie were used. Furthermore, a set of Ra- and MsTh-sources with different intensities was employed.

050411 D
VLASENKO, V.I.; ZHDANOV, G.S.; SOKOLOV, A.D.

Dynamic method for analog representation of two-dimensional
functions. Priboestroenie no.6:11-14 1957 (MIRA 10:7)
(Electronic calculating machines) (Mathematical models)

66365

21,5300

SOV/120-59-5-8/46

AUTHORS: Matveyev, V.V., Popkov, G. K. and Sokolov, A. D.

TITLE: Determination of Some Photomultiplier and Scintillator Parameters

PERIODICAL: Priory i tekhnika eksperimenta, 1959, Nr 5, pp 40-44 (USSR)

ABSTRACT: An apparatus is described for the rapid determination of some photomultiplier parameters and the selection of the most suitable supplies. The experimental counter head is shown schematically in Fig 2, in which 4 is the photomultiplier, 2 is the radioactive source, 1 is a cap for work with liquid scintillators and 6 is a demountable voltage divider. The cap includes a micrometer arrangement so that the distance from the source to the photocathode may be varied between 0 and 150 mm with an accuracy of 0.25 mm. The output of the photomultiplier is fed to a conventional kicksorter arrangement. A study was made of the effect of the source position, type of radiation, the supplies and the voltage distribution among the dynodes. The optimum results were obtained with solutions similar to those used by Brooks (Ref 10),

Card1/2

21(4), 21(8)
AUTHORS:

SOV/89-6-4-15/27
Gol'bek, G. R., Matveyev, V. V., Sokolov, A. D.

TITLE:

A Gamma Field in Air Formed by a Punctiform γ -Ray Source Which Is Embedded in a Semi-infinite Sandy Material (Gamma-pole, obrazovannoye v vozdukhe tochechnym istochnikom γ -izlucheniya, pomeshchennym v polubeskonechnuyu peschanuyu sredu)

PERIODICAL: Atomnaya energiya, 1959, Vol 6, Nr 4, pp 475-478 (USSR)

ABSTRACT:

Experimental arrangement: The γ -measuring head is located 8.5 m above the ground. It consists of a NaJ(Tl)-crystal (diameter 40 mm, height 10 mm) and the multiplier FEU-12 and is connected with a cathode follower and a pulse analyzer. (The γ -spectrometer was developed by N. I. Aleshin, A. A. Markov and V. N. Markov). The spectrometer was gauged by means of the known γ -standard line and shows a deviation of only 4% from its linearity within the range of 48 kev to 2.62 Mev. The resolving power is 10.8% (half-width of the photopeak of Cs^{137}). As a γ -radiating source Zn^{65} , Ra- and MsTh-preparations of 0.1 C thickness were used, which were embedded in loose sand in depths of 5, 10, 20, 30 and 40 cm. The differential- as well as the integral spectra were measured. In order to be able to compare them with one another, the

Card 1/2

SOV/89-6-4-15/27

A Gamma Field in Air Formed by a Punctiform γ -Ray Source Which Is Embedded in a Semi-infinite Sandy Material

former were standardized with respect to surface, and the latter as to 60 kev. The results obtained show that the low-energy part of γ -distribution is practically the same for all sources and depends only little on the depth in which the source is embedded. In the case of sources being embedded up to 10 cm the ends of the spectra are distinctly marked, and the photopeaks of the individual γ -lines of the various sources are visible. If the sources are deeply embedded, a change occurs in the hard part of the spectrum, but the individual character of the spectra nevertheless is conserved. The intensity variation of γ -radiation in dependence on the depth in which the source is embedded (5 - 50 cm, recorded every 5 cm) was also measured and is shown in form of a graph. The results obtained were discussed with I. I. Gurevich. I. P. Lavrushkin took part in the experiments. There are 4 figures and 4 references, 3 of which are Soviet.

SUBMITTED: August 26, 1958

Card 2/2

MATVEYEV, V.V.; SOKOLOV, A.D.

Application of scintillation counters in standard apparatus.
App.dlia iad. spek. no.1:7-18 '60. (MIRA 14:8)
(Scintillation counters)

MATVEYEV, V.V.; SKOLOV, A.D.

Characteristic amplitude resolving power of a photomultiplier.
App.dlia iad. spek. no.1:19-27 '60. (MIRA 14:8)
(Photoelectric multipliers)

MATVEYEV, V.V.; SOKOLOV, A.D.; SUCHKOVA, L.A.

Some problems of the construction of light pipes for scintillation counters. App.dlia iad. spek. no.1:28-40 '60.
(MIRA 14:8)

(Scintillation counters)

85349

S/120/60/000/005/019/051

E032/E514

9.4130 (2301, 2801, 3001)

AUTHORS: Matveyev, V.V., Minayeva, Ye. Ye. and Sokolov, A.D.

TITLE: Measurement of the Anode Current of Photomultipliers

PERIODICAL: Pribery i tekhnika eksperimenta, 1960, No.5, pp.86-89

TEXT: The anode currents of Soviet photomultipliers (types ФЭУ-29 (FEU-29), 24, 13, C (S), 23) were investigated as functions of the magnetic field. It was found that the properties of these photomultipliers as far as the effect of the magnetic field is concerned are identical with the RCA 5819 and RCA 6199 photomultipliers. The limiting magnetic field lies in the neighborhood of 0.5 Oe. There are 4 figures and 8 references: 4 Soviet and 4 English.

SUBMITTED: August 26, 1959

Card 1/1

11.6000,21.5200

77226
SOV/89-8-1-20/29

AUTHORS: Matveyev, V. V., Sokolov, A. D.

TITLE: A Radiometer-Analyzer for an Aircraft. Letter to the Editor

PERIODICAL: Atomnaya energiya, 1960, Vol 8, Nr 1, pp 70-72 (USSR)

ABSTRACT: Radiometric prospecting for radioactive ore sites using airplanes was, according to the authors, practically nonexistent due to lack of appropriate equipment. They developed, therefore, a highly sensitive liquid scintillator threshold γ -spectrometer. The counting head, represented in Fig. 2, consists of an aluminum cylinder 20 cm in diameter and 60 cm high and two photoelectric multipliers type FEU-19M and FEU-24. Solution of p-terphenyl in toluol was chosen for the scintillator and 4 gm/liter of p-terphenyl was found to constitute the optimum concentration. Additional 20 mgm/l of naphthylphenyloxazole (α NPO) increased the sensitivity for approximately 10%, and by removing any possible poisoning by oxygen (passing pure argon through the

Card 1/5

A Radiometer-Analyzer for an Aircraft.
Letter to the Editor

7/226
SOV/89-8-1-20/29

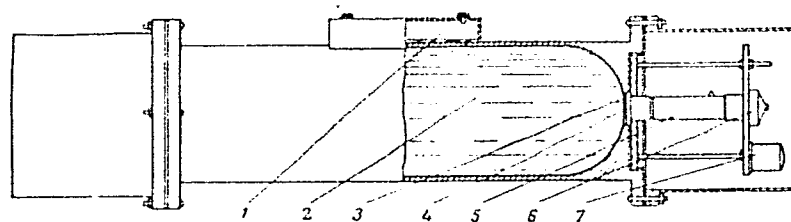


Fig. 2. Diagrammatic cross section of the counting head:
(1) auxiliary container; (2) liquid scintillator; (3)
gasket; (4) window; (5) FEU; (6) high voltage joint;
(7) cathode follower.

Card 2/5

A Radiometer-Analyzer for an Aircraft.
Letter to the Editor

77226
SOV/89-8-1-20/29

scintillator) the sensitivity registered 10% more gain. The auxiliary container held some additional argon to prevent possible future poisoning. Power was supplied by a high-voltage sectionalized battery, which unfortunately did not permit an adjustment of voltages for the optimum performance of the photomultipliers. The schematics of the electronic part is shown in Fig. 1. One can switch from a general counting channel with a threshold varying between 50 and 500 kev to a cutoff counting channel with a threshold varying between 1.5 and 2.5 mev. High-energy (above 3 mev) cosmic ray counts are eliminated using anticoincidences. The sensitivity of the FEU-19M per channel of the general count was 500 ± 50 counts/sec for 1 μ Roentgen/h of radium radiation. The coefficients of relative rigidity of γ -rays (in percent of the count on the general channel) are 4 thorium and 2 for the radium radiations. The tests in the year 1956 and use in 1957 showed that the high sensitivity and the possibility of threshold γ -ray spectrometry open large methodological possibilities for aeroradiometric prospecting.

Card 3/5

A Radiometer-Analyzer for an Aircraft.
Letter to the Editor

77226

SOV/89-8-1-20/29

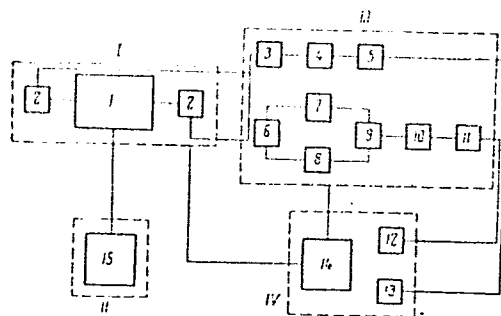


Fig. 1. Block diagram of the apparatus: [I] counting head (1) scintillation counter; (2) cathode repeaters); [II] high-voltage power supply FEU; [III] electronic scheme (3,6) cathode repeaters; (4,7,8) amplitude discriminators; (5,11) counting rate meters; (9) anticoincidence scheme; (10) pulse-forming single flip-flop oscillator); [IV] automatic device for data and power supply (12,13) registering galvanometers; (14) transformers and rectifiers; (15) high-voltage battery).

Card 4/5

A Radiometer-Analyzer for an Aircraft.
Letter to the Editor

77226
SOV/89-8-1-20/29

There are 3 figures; and 9 references, 4 Soviet, 1 German, 4 U.S. The U.S. references are: F. Broons, Progr. Nucl. Phys., 5, 252 (1956); F. Hayes, et al., Nucleonics, 14, Nr 1, 42 (1956); P. Swank, Annual Rev. Nucl. Sci., 4, 11 (1954); R. Pringl, et al., Phys. Rev., 92, 1582 (1953).

SUBMITTED: December 23, 1958

Card 5/5

84723

S/057/60/030/010/002/019

B013/B063

26.2246

AUTHORS: Matveyev, V. V., Sokolov, A. D.

TITLE: Examination of ²¹Hard X-Rays From the Toroidal System
 "TOKAMAK -2" (²⁶Tokamak-2)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 10,
 pp. 1145-1151

TEXT: A system serving for recording and determining the energy and time distribution of pulsed X-radiation is described. In addition, results are given regarding the study of rules governing X-radiation yield from the toroidal pulsed chamber²¹ "Tokamak-2". The system consisting of two main parts (see block diagram in Fig. 1) allows recording pulses by means of a scaler, and determining their distribution within time intervals of from 10 to 2000 msec. In addition, oscillograms may be recorded for determining the distribution of pulses in time and in amplitude. Experiments have shown the possibility of reliably recording radiation with a $1 \cdot 10^{-6}$ sec time resolution. The screening provided ensures the normal performance under operational conditions and reduces the amplitude of the natural

Card 1/3

84723

Examination of Hard X-Rays From the Toroidal
System "ТОКАМАК-2" (Tokamak-2)

S/057/60/030/010/002/019
B013/B063

background to low values (~ 1 pulse during 8 discharges). "Tokamak-2" served for studying the dependence of the yield of hard X-rays with energies exceeding 50 keV on the initial deuterium pressure and on the electric field strength. As follows from the dependences thus found (Fig. 2) X-rays are only then observable, when the ratio of electric field strength versus the initial pressure ranges between 100 and 300 V/cm.mm Hg and the peak of yield is between 160 and 170 V/cm.mm Hg. "Tokamak-2" was also employed to study the effect of the potential of a longitudinal magnetic field on X-radiation intensity. The functions found are shown in Fig. 3. As may be seen, the dependence of radiation yield has the same character in each of the cases examined. The yield attains its peak at a magnetic field strength of 5 - 6 kilogauss. Investigations were also extended to the time and energy distribution of X-rays (Fig. 4). Oscillograms revealed that X-rays are only emitted during a steady increase of the discharge current. Mainly X-ray quanta with energies of 600 to 9000 keV were found to be emitted, although numerous spectra exhibit quanta with energies up to 2.2 MeV. The energy maximum of X-ray quanta recorded under various operational conditions is both dependent on the ratio E/P and on the longitudinal magnetic field strength. The peak values of the

Card 2/3

84723

Examination of Hard X-Rays From the Toroidal
System "TOKAMAK-2"(Tokamak-2)

S/057/60/030/010/002/019
B013/B063

maximum quantum energy are observable at E/P in the range of 160-170 v/cm.mm Hg and at a maximum potential of the longitudinal magnetic field. By comparison of Fig. 3 with Fig. 5 it was found that the established functions are little changed by energy losses caused by X-radiation. This is due to the fact that the X-ray yield is far more dependent on operational conditions of the chamber than on changes in the energy spectrum. A study made of the dependence of the maximum X-ray quantum energy on its emission time did not allow drawing any definite conclusions about the correlation existing between these quantities. Conclusions gained from an interpretation of results call for a further investigation of hard X-radiation. The authors thank N. A. Yavlinskiy, V. S. Mukhovatov, and V. S. Strelkov for their valuable advice, and V. Z. Sedin for his assistance. The experimental system was worked out by a group of designers under the supervision of A. M. Radyvanyuk. There are 5 figures and 5 references: 4 Soviet.

SUBMITTED: April 9, 1960

Card 3/3

20687

9.4130 (1138, 1141, 2801, 3201)

S/120/61/000/001/023/062
E032/E114

AUTHORS: Matveyev, V.V., and Sokolov, A.D.

TITLE: Determination of the Natural Amplitude Resolution of
Photomultipliers Using a Pulsed Source of Light

PERIODICAL: Pribery i tekhnika eksperimenta, 1961, No.1, pp.75-77

TEXT: In order to determine the natural amplitude resolution of photomultipliers it is necessary for the source of light to produce constant amplitude flashes. The source used by the present authors is similar to that employed by G.F.J. Garlick and G.T. Wright (Ref.18), except that in order to improve the stability, the amount of feedback was increased and the MH-8 (MN-8) tube was replaced by the cold cathode thyratron TX-45 (TKh-4B) which has a non-activated molybdenum cathode. As a result, the instability in the amplitude of the light flashes over an 8-hour period of continuous operation was found to be not more than $\pm 2.5\%$, the half-width of the amplitude distribution being not more than 1%. The basic circuit is illustrated in Fig.1. G.T. Wright (Ref.19) has shown that the output voltage of a photomultiplier due to a scintillation flash with a time constant

Card 1/6

20687

S/120/61/000/001/023/062
E032/E114

Determination of the Natural Amplitude Resolution of
Photomultipliers Using a Pulsed Source of Light

τ at the photocathode can be represented by an expression of the
form

$$v(t) = \frac{N_0 e q M}{C(\tau/RC - 1)} \left[\exp(-t/\tau) - \exp(-t/RC) \right]$$

where M is the amplification coefficient of the photomultiplier,
 e is the electronic charge, N_0 is the number of electrons and
 q is the photoelectron collection coefficient at the first
dynode of the photomultiplier. In the determination of the
resolution of a photomultiplier, the length of the light pulse
 τ is in general not equal to the time constant of the
scintillator τ , and hence it is necessary to find the conditions
under which the number of photoelectrons due to the light flash is
equal to the number of photoelectrons due to scintillation.
Neglecting differences between the form of the light flashes and
the scintillations, one can show that the above numbers of
photoelectrons are equal when $\tau/RC \ll 1$ and $\tau_p/RC \ll 1$.

Card 2/ 6

20687

S/120/61/000/001/023/062
EO52/E114

Determination of the Natural Amplitude Resolution of
Photomultipliers Using a Pulsed Source of Light

In order to verify this result, the dependence of the resolution of a photomultiplier and a scintillation counter on the magnitude of RC was studied experimentally, using the above pulsed source and a NaI (Tl) crystal. The percentage resolution for the photomultiplier (curve I) and the scintillation counter (curve II) is shown in Fig.2 as a function of τ/RC . As can be seen from Fig.2, curve I is in agreement with theoretical calculations (J.F. Vervier, P.C. Mac, Ref.20) while curve II, which was obtained with the pulsed source of light, shows a more rapid increase in the resolution. This is apparently associated with the difference between the form of the actual light-flash and that assumed in the theoretical calculations of G.T. Wright (Ref.19). It appears that for most practical purposes it is sufficient to satisfy the condition $\tau/RC \leq 0.1$. In a further experiment, the natural resolution of Φ_{γ}^{-1} (FEU-1S) photomultipliers having different integral photocathode sensitivities was investigated.

Card 3/6

20687

S/120/61/000/001/023/062
EO32/E114

Determination of the Natural Amplitude Resolution of
Photomultipliers Using a Pulsed Source of Light

Use was made of a light source with intensity equal to that of scintillations in a sodium iodide crystal irradiated with Cs¹³⁷ γ rays. The result is shown in Fig. 4 in which the resolution of the photomultiplier (in percent) is plotted as a function of the integral photocathode sensitivity (μa/lumen).

Acknowledgements are expressed to I.S. Krasheninikov for valuable advice and to Ye.Ye. Minayeva and G.I. Shuvalov for assistance in the experiments.

There are 4 figures and 22 references: 9 Soviet and 13 non-Soviet.

SUBMITTED: December 31, 1959

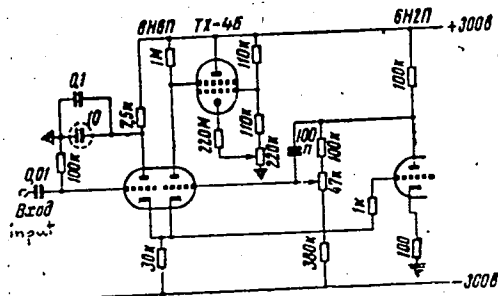
Card 4/6

20687

S/120/61/000/001/023/062
EO32/E114

Determination of the Natural Amplitude Resolution of
Photomultipliers Using a Pulsed Source of Light

Fig. 1



Card 5/6

20687

S/120/61/000/001/023/062
EO32/E114

Determination of the Natural Amplitude Resolution of Photomultipliers Using a Pulsed Source of Light

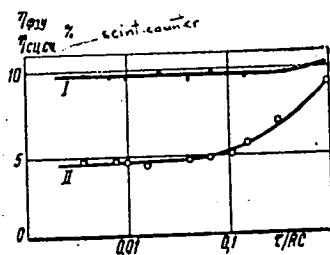


Fig. 2

Card 6/6

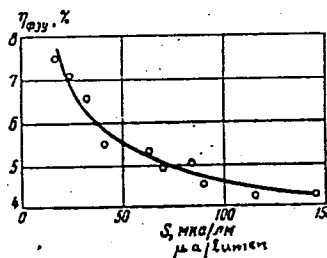


Fig. 4

20703

S/120/61/000/001/041/062
E032/E114

26.2244

AUTHORS: Matveyev, V.V., and Sokolov, A.D.

TITLE: An Instrument for the Recording of Neutrons Produced
in a Toroidal Pulsed Discharge

PERIODICAL: Pribery i tekhnika eksperimenta, 1961, No.1, pp 130-132

TEXT: One of the characteristics of a pulsed, high-current discharge is the number and the time distribution of the neutrons emitted during the discharge. The present authors describe an instrument designed to determine the yield and the time distribution of neutrons produced in a toroidal thermonuclear apparatus. The instrument is in the form of a scintillation counter working in conjunction with an electronic circuit capable of recording and analyzing the pulses produced by the counter. Both the amplitude and the time distribution of the pulses can be analyzed. The instrument consists of two main blocks, namely, a counter head and a control and recording block. The counter head consists of a plastic scintillator (polystyrene + p-terphenyl + POPOP), 10 cm in diameter and 10 cm long. The end of the phosphor which is in contact with the photomultiplier is conically shaped and the

Card 1/3

20703

S/120/61/000/001/041/062
E032/E114

An Instrument for the Recording of Neutrons Produced in a Toroidal Pulsed Discharge

phosphor as a whole is surrounded by an MgO reflector. The $\Phi\gamma$ -2A (FEU-2A) photomultiplier is used. The pulse from the photomultiplier is fed into a preamplifier having an amplification coefficient which can be adjusted between 1 and 10. The scintillation counter and the preamplifier are surrounded by a two-layer screen (2 cm of copper + 2 cm of soft steel). The preamplifier is supplied by special batteries placed together with the probe in an aluminium container having walls 2 cm thick. Pulses from the preamplifier are fed into an amplifier and to one of the channels of a pulse OK-17M (OK-17M) oscillograph. The latter is triggered by a pulse from the thermonuclear apparatus. Pulses can be photographed from the screen by camera attachment. The amplified pulse is fed into a pulse shaping circuit followed by a discriminator, a gating circuit and a scaler. The gate is opened by a pulse from the thermonuclear machine. The instrument is capable of recording pulsed neutron fluxes within a time range of 10 μ sec to 2 ms with a delay relative to the trigger pulse

Card 2/3

20703

An Instrument for the

S/120/61/000/001/041/062
E032/E114

up to 2 ms. In order to determine the absolute neutron yield, the instrument was calibrated on a linear deuteron accelerator, using the $d(d,n)He^3$ reaction and a standard Po-Be neutron source. Experiments showed that the instrument is capable of recording both neutron fluxes in excess of 0.1 neutron/cm² per pulse and also hard x-rays. The efficiency of the instrument for neutrons was found to be of the order of 0.5 with a discrimination threshold of 0.5 MeV.

Acknowledgements are expressed to V.D. Timoshchuk, L.N. Andreyev, N.A. Yavkinskiy and V.P. Berbasov for interest and assistance.

There are 2 figures and 6 references: 2 Soviet and 4 non-Soviet.

SUBMITTED: December 10, 1959

Card 3/3

S/578/61/000/002/001/002
E032/E514

AUTHORS: Matveyev, V.V. and Sokolov, A.D.

TITLE: An apparatus for the investigation of hard X-rays
produced in high-power, pulsed gas discharges

PERIODICAL: Zhernov, V.S. and Shirshov, D.P., eds. Uzly novoy
apparatury dlya issledovaniya yadernykh izlucheniyy;
nauchno-tekhnicheskiy sbornik. no.2. Moscow,
Gosatomizdat, 1961, pp.101-106 ✓

TEXT: A block diagram of the apparatus is shown in Fig.1.
It is designed for the determination of the energy and time
distribution of hard X-rays emitted from high-power gas discharges
of the type produced in laboratory experiments on controlled thermo-
nuclear reactions. The X-rays are detected by a scintillation
counter (NaI; diameter 80 mm, height 80 mm). The phosphor is
mounted on a ФЭУ-24 (FEU-24) photomultiplier, which has an
intrinsic amplitude resolution of about 6%. The pulse from the
photomultiplier is transmitted by a 50 m cable, the matching being
achieved by a cathode follower. The pulses are amplified by the
amplifier УИС-2, which has been described by the present
Card 1/3 (UIS-2)

An apparatus for the ...

S/578/61/000/002/001/002
E032/E514

authors (Ref.2: Apparatus for nuclear spectrometry. M., Atomizdat, 1960, No.1, p.19). The delayed pulse generator ПИС-2 (GIS-2) can be used to produce time "windows" between 10 μ sec and 2 msec with a delay up to 10 msec. The pulses are recorded from the screen of a double-beam pulse oscillograph OK-24M. The device has been used to study X-ray pulses produced during the operation of the pulsed toroidal chamber "Tokamak-2". Acknowledgments are expressed to A. M. Radyvanyuk who was in charge of the construction of the apparatus. There are 4 figures and 4 Soviet references.

Fig.1. Legend.

I - block diagram of counter, II - block diagram of control desk and recording unit; 1 - phosphor; 2 - photomultiplier; 3 - cathode follower; 4 - double-beam pulse oscillograph OK-24M; 5 - photographic camera; 6 - UIS amplifier; 7 - gate; 8 - ПС-10000 (PS-10 000); 9 - pulse generator GIS-2; 10 - photomultiplier supplies; 11 - cathode follower supplies.

[Abstractor's Note: PS -10 000 is believed to be a pen recorder.]

Card 2/3

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S/560/61/000/011/006/012

E032/E514

AUTHORS: Matveyev, V.V. and Sokolov, A.D.
TITLE: Determination of induced radioactivity in the
second cosmic spaceship
SOURCE: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli.
no.11. Moscow, 1961. Rezul'taty nauchnykh
issledovaniy, provedennykh vo vremya poletov vtorogo
i tret'yego kosmicheskikh korabley-sputnikov, 42-45
TEXT: The authors determined the residual γ -activity in a
biological specimen of type AMH-1 (AMN-1) on board the second
Soviet cosmic spaceship. The biological specimens were in the
form of cylinders (3.8 cm diameter, 4 cm long) with a total
weight of 86 g. The activity of the specimens was measured
after return to Earth and it was found that if there was a
residual γ -activity 15 days after the return to Earth it did not
exceed 10^{-10} gram equivalents of radium.

SUBMITTED: May 3, 1961

Card 1/1

MATVEYEV, V.V.; SOKOLOV, A.D.; URYADKO, S.I., red.; GREBNEVA, L.A.,
tekhn. red.

[Photomultipliers in scintillation counters] Fotoumnozhiteli v
stsintilliatsionnykh schetchikakh. Moskva, Gosatomizdat,
1962. 155 p. (MIRA 15:9)
(Scintillation counters) (Photoelectric multipliers)

S/120/62/000/001/035/061
E192/E382

AUTHORS: Matveyev, V.V., Minayeva, Ye.Ye. and Sokolov, A.D.

TITLE: Investigation of the temperature-dependence of the parameters of photomultipliers

PERIODICAL: Pribory i tekhnika eksperimenta, no. 1, 1962,
144 - 148

TEXT: The operating-temperature range of scintillation equipment is largely dependent on the thermal stability of the parameters of photomultipliers used in the equipment. The temperature stability of the photomultipliers was therefore investigated, firstly by considering the available experimental data and, secondly, by carrying out some special measurements. The available data (for a number of American du Mont and RCA tubes and Soviet devices) covered the temperature range from -50 to +50 °C and were measured under pulsed conditions such that the light spectrum covered the range from 3 500 to 6 000 Å. It is found by examining these data that the temperature coefficient of the photomultipliers, even of the same type,

Card 1/5

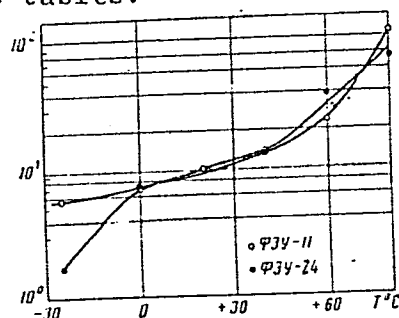
Investigation of

S/120/62/000/001/035/061
E192/E382

by illuminating it with monochromatic light of the following wavelengths: 4170; 4630; 5160 and 6100 Å. It was found that in this case the overall sensitivity, as a function of temperature, varied not only in magnitude but also in sign. The equivalent noise of the photomultipliers was also measured and this is illustrated in Fig. 3, where its level in relative units is plotted for two photomultipliers (FEU-11 and FEU-24). The authors thank V.V. Khodakova and A.V. Koslyadin for help in this work. There are 4 figures and 2 tables.

SUBMITTED: June 20, 1961

Fig. 3:



Card 3/3

MATVEYEV, V.V.; SOKOLOV, A.D.

Determining the induced radioactivity in the second spaceship.
Probl.kosm.biol. 1:265-266 '62. (MIRA 15:12)
(SPACE FLIGHT) (RADIOACTIVITY)

MATVEYEV, V.V.; MINAYEVA, Ye.Ye.; SOKOLOV, A.D.

Design of electromagnetic screens for photomultipliers. Prib. i tekhn.
eksp. 8 no.2:116-120 Mr-Ap '63. (MIRA 16:4)
(Photoelectric multipliers)

L 12914-63
 ACCESSION NR: AP3001330

BDS/EWT(1)/EWJ(R)/ES(w)-2 AFFTC/ASD/ESD-3/AFWL/SSD
 Pz-4/Pat-4/P-4/Po-4 AT/IJP(G)
 S/0057/63/033/006/0710/0714

AUTHOR: Matveyev, V. V.; Sokolov, A. D.; Suchkova, L. A.

TITLE: Investigation of hard radiations from plasma in a strong magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 33, no. 6, 1963, 710-714

TOPIC TAGS: Tokamak-2, high energy plasma, radiation from plasmas

ABSTRACT: Measurement of the hard radiation emitted is considered to be a desirable tool for the investigation of plasma behavior because it does not require the introduction of foreign objects into the discharge chamber. The x-rays and neutrons emitted by the "Tokamak-2" apparatus were investigated in two series of experiments beginning in 1959. Between the two series the apparatus was disassembled and reassembled, but no important changes were intentionally made. The results of the first series of experiments and a description of the experimental techniques and apparatus have been published elsewhere (V.V. Matveyev and A.D. Sokolov, ZhTF, 30, 10, 1145, 1960). The measurements of the x-ray yield at right angles to the electron trajectories made in the first series of experiments were repeated and the following differences were noted: the point of maximum yield shifted to somewhat lower values of the ratio of the electric field strength to the pressure (E/p); the x-ray yield increased severalfold; the mean energy of the

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x-rays increased by 1.5-2 times; photons with energies up to 5 MeV were observed. The azimuthal distribution of the x-ray intensity was obtained for three different operating conditions, and the x-ray intensity was obtained as a function of E/p for both the electric field and the magnetic field in each of its two possible directions (four curves). The azimuthal distribution is not quite uniform and is not symmetric about the plane of symmetry of the equipment; the curves of yield versus E/p differ considerably from each other. These results are attributed to asymmetry of the field configuration. The x-ray yield was obtained as a function of E/p for four different plasmas consisting of hydrogen, deuterium, helium and argon. The mean energy of the x-rays decreases somewhat with increasing ion mass and is about 700 keV for argon. The shape of the yield curve for argon was considerably different from that for the other three plasmas, the maximum being multiple and shifted to higher values of E/p. Although the ion temperatures attained in the Tokomak-2 are not such as to lead one to expect neutron production in a deuterium plasma, a search was made for neutrons. None were found, and it is concluded that the neutron yield is less than 10^4 neutrons/discharge when x-rays are absent and less than 10^5 neutrons/discharge when x-rays are present. "In conclusion the authors convey their gratitude to G.G. Dolgov-Savel'ev, V.S. Mukhovatov, V.S. Strelkov, V.Z. Sedin and other co-workers for assistance and for participation in discussions of the experiments. The work was performed at the initiative and under the guidance of N.A. Yavlinskiy (deceased)." Orig. art. has: 1 formula and Card 2/12

L 33184-66 EWT(1) IJP(c) AT

ACC NR: AR6016168

SOURCE CODE: UR/0058/65/000/011/G017/G017

AUTHORS: Baldin, S. A.; Matveyev, V. V.; Radyvanyuk, A. M.; Sokolov, A. D.

7/
B

TITLE: Development of apparatus for the investigation of high-temperature plasma by means of penetrating radiation

SOURCE: Ref. zh. Fizika, Abs. 11G133

REF SOURCE: Tr. Soyuzn. n.-i. in-ta priborostr., vyp. 1, 1964, 182-198

TOPIC TAGS: plasma diagnostics, high temperature plasma, x radiation, neutron radiation, plasma magnetic field, RADIATION COUNTER, RADIATION SPECTROMETER

ABSTRACT: The fundamental problems are considered in connection with the development of electronic-physics apparatus for the diagnostics of high-temperature current plasma by registration and spectrometry of the hard x-ray and neutron radiations. The requirements imposed on the apparatus and also the testing of the apparatus are investigated on the basis of the operating conditions of toroidal installations with strong magnetic field. [Translation of abstract]

SUB CODE: 20

Card 1/1 MC

OWEN, A. G.

"Experiments on the Control of the Electromagnetic Properties of
Liquid Crystals." *Dokl. Akad. Nauk SSSR*, All-Union Sci Res Inst
of Metrol., Leningrad, 1954. (Zhurav, Sep 54)

U: 01 140, 10 Mar 55

Sokolov, A. D.

4

FIZ. MET. I METALL. VOL. 1, NO. 1, 1955

MG

Apparatus for the determination of electromagnetic characteristics of dynamo and transformer iron on whole sheets by A. D. Sokolov and R. I. Yanus (p. 110-117) -
An apparatus is described which can be used for non-destructive tests on large sheets. It consists of two parts: one for the determination of d.c. magnetisation curves using the induction method and the other for the determination of specific losses by the wattmeter method and for the determination of alternating magnetisation curves.

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Inst-Physics, Natl. Univ. Affil., AS USSR

46-3-12/15

Sokolov, A.D.
AUTHORS: Golyamina, I.P., Sokolov, A.D., Chulkova, V.I.

TITLE: Tests on Experimental Ferrite Ultrasonic Receivers.
(Ispytaniya opytnykh ul'trazvukovykh priyemnikov iz ferritov)

PERIODICAL: Akusticheskiy Zhurnal, 1957, Vol.III, Nr 3, pp.238-290
(USSR)

ABSTRACT: Recently there has been an increase in the interest in ferrites as materials for electroacoustic transducers. Studies of a number of properties of nickel-zinc ferrites and tests on experimental radiators (Refs.1-4) have shown that apparently ferrites can be successfully employed as magnetostriction acoustic radiators of average power. The quantity $\lambda = (\delta B / \delta \sigma)_H$ where B is the induction, σ is the mechanical tension and H the magnetic field, can be used as an estimate of the suitability of ferrites as materials for receivers. Measurements of this quantity show (Refs.3 and 5) that a number of nickel-zinc ferrites have the value of λ which is comparable with that for nickel and special magnetostriction alloys and sometimes even larger. At the same time λ increases as the zinc-ferrite content in the solid solution increases from 0 to 70%. In the present note a report is given of some work

Card 1/3

Card 2/3

126-3-30/34

AUTHOR: Sokolov, A. D.

TITLE: On the influence of elastic stresses on the electro-magnetic properties of electrical steels. (K voprosu o vliyaniy uprugikh napryazheniy na elektromagnitnye svoystva elektrotekhnicheskoy stali).

PERIODICAL: "Fizika Metallov i Metallovedeniye" (Physics of Metals and Metallurgy), 1957, Vol.4, No.3, pp. 555-558 (U.S.S.R.)

ABSTRACT: The experiments consisted of measuring the P_{10} and P_{15} losses on 750 x 750 mm sheets of 0.5 mm thickness in a test rig as shown in Fig.1, p.555, in which the edges were subjected to a pressure of 200 kg; thus those edges which were not absolutely flat were elastically stressed. Following that, the sheets were cut into 30 mm wide strips grouped in the same sequence as prior to cutting and the magnetic losses were measured again. It was thereby assumed that the cut strips were free of elastic stresses during the tests. The results are summarised in Tables 1 and 2, pp.557-558 and they show that straightening of the wavy surface of electrical sheets has a considerable influence on the electro-magnetic properties and that it is imperative to obtain as plane a surface as possible for improving the magnetic properties and also for improved filling of the space with

Card 1/2